neat notes
THE NEWSLETTER OF NEW ENGLAND APPLE TREE
P.O. BOX 2519
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THE NEWSLETTER OF NEW ENGLAND APPLE TREE

SEPTEMBER PROGRAM

Turning Point Software will demonstrate "Time is Money" and answer questions. They will hand out FREE DEMO DISKETTES at the meeting September 19, 1984 at 7:30.

OCTOBER PROGRAM: Digital Vision will demonstrate a low cost system for connecting a video camera or VCR to your Apple computer.

NOVEMBER PROGRAM: Swap night. Bring hardware & software to sell or swap.

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NEW ENGLAND APPLE TREE

SOFTWARE LIBRARY ORDER FORM

N.E.A.T. software library disks are available for purchase by members and non-members. The price per one volume copied on N.E.A.T. disk

MEMBERS: $3.00 picked up at the meeting
NON-MEMBERS: $5.00 picked up at the meeting
Add $2.00 per order if mailed to you.

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NEAT is the oldest Apple Users group in New England and was founded to provide for the sharing of information between users of home computers. If you own or operate an Apple computer or are thinking about getting involved in this fast growing field, please come to one of our meetings and see what it is all about.

The monthly meetings have several purposes: to conduct club business, to broaden members' knowledge about the possible uses of their Apples, to help newcomers learn about micros, and to provide mutual aid.

Each monthly meeting follows the same format: from 7 to 7:30 NEAT volunteers are available to answer questions and offer support. The business meeting follows, lasting until no later than 8:30. Next is the presentation for the evening on a topic of special interest, after which members can pick up their copy of the disk-of-the-month (D.O.M.)

The dues for members are $15/year and anyone may join at any of the meetings or by sending an application form to:

N E A T
P.O Box 2519
Woburn, MA. 01888

Membership in NEAT is a family membership which runs for one year. Members are given a membership card which allows them to attend all meetings and bring family members and guests. Each membership card also entitles the member to a copy of the DOM copied on the member's disk at each meeting.

Additional software may be purchased from the NEAT Software Library at member's prices. This software is on disk and can be ordered at the meetings or thru the mail and picked up at the meeting or mailed to the member for an additional charge. A copy of NEAT NOTES, the club newsletter, is also mailed to all members each month. Membership in NEAT entitles the member to participate in any of the club functions and run for any of the offices or volunteer for any of the committees or special interest groups. It is in this way that the most benefit is derived from this type of an organzation. We all learn from each other and whether it is software, hardware or organizations and people you are interested in, you will gain the most from direct participation.

N.E.A.T. OFFICERS AND CHAIRMEN

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SIGCP/M :	Joe Stivaletta	861-1899

Editor/Writer: Jim Whitehead	729-0970

Disk of the Month:

Actually, this title is misleading, for there are two DOM's this month. The first disk is for programmers, and contains Build A Program which creates a shell for BASIC programming. The second disk is filled to the brim with VisiCalc templates, which thanks to ProDOS are now available on the Apple // series of computers. (See ProDOS is useful for something!)

Build A Program creates a text file, which when Execed, creates the shell of a BASIC program. This shell contains many useful routines which are either never used in programs because the author is lazy, or are added into the program after it is half done, in a sloppy fashion. These routines are: Input anything with user-definable length, Input date, and return with day of week, center text, position text, along with others dealing with text files. For people who like to get right to the meat of their BASIC program when programming, instead of fiddling with the details, this disk is a must!

The second disk of the month is a VisiCalc template disk, including templates: Check Master, Bank Reconciliation, Budget Template, Small Business Start-Up,

Net Worth, Comparative Shopping, Income Tax, as well as Linear and Exponential Regressions. All templates come with their own documentation, and a convenient feature included is a Catalog template, listing all of the files on the disk. If you have been wondering why you ever bought VisiCalc just to have it sit unused, feed it some templates and see what it can do!

Both DOM's can be picked up at the meeting, free on your diskette. If you miss the meeting, you can still get these fine programs from the club library, for a fee.

REVIEW:

Machine Language Utilities

NEAT Volume #118

By: Jim Whitehead

How many times have you cursed the inflexibility of the Apple's monitor, not(allowing for the insertion of a single byte, or any better deletion of a byte than by replacing it with a $EA, No Operation? Or even worse, how often have you forgotten the length of the machine language program you are entering, and don't save the entire file?

Luckily, there is an inexpensive solution. The Machine Language Utilities disk is a superb example of what public domain software is at its best. This disk contains a Binary Entry Utility, an Assembler, two Assembly Language tutorials, as well as many other machine language utilities.

The Binary Entry Utility is ideal for attacking the problems of entering long magazine listings. Anytime a listing takes more than a page in a magazine, errors are certain to appear in the transfer from magazine to computer. Binary Entry Utility allows for the editing of entered hex data, including the ability to insert and delete a byte anywhere within the listing. No longer will it be necessary to retype an entire program, just because of the omission of a single byte.

Binary Entry Utility comes complete with a debugger, allowing the setting of breakpoints within a program, a modified list routine which displays Ascii as well as hex characters within hex dumps, single stepping through programs, as well as the ability to trace program execution. All of these features make the Binary Entry Utility invaluable.

The Machine Language Utilities disk also comes with a fourteen page Assembly Language tutorial. This tutorial resides on the disk as a 104 sector text file, with a program that prints the text file to any slot. This tutorial, while not the absolute best that I have seen, does explain adequately the basics of Assembly Language programming. A real must, especially if you are confused about Machine Language concepts or programming.

This disk also includes an Assembler. This assembler, while not as powerful as many on the market today, is quite ample for beginning assembly language needs. A step up from the mini-assembler, but just below powerful macro assemblers, this assembler features many pseudo-opcodes and features, including several different data types, as well as the familiar ORG opcode. This assembler makes a good testing ground for information learned from the tutorial.

The best feature of the Machine Language Utilities disk is the price. For one dollar and your disk, you get a machine language editor with more features than Nibble's touted MLE ($29.95 plus $1.50 shipping!), as well as an on-disk tutorial and assembler. This disk is a steal, well worth the pittance paid for it.

5½" DISKETTES ONLY $1.50 ea.

WHEN YOU BUY 50; INCLUDES HUB RINGS

AND ENVELOPES: GUARANTEED ERROR-FREE.

SOLD BY NEAT. PAY SEPT., PICK-UP OCT.

REVIEW:
Arcade Boot Camp
By: Jim Whitehead

How often have you been in an arcade, racking up a high score, only to have someone half your age come in and in one game quadruple your score? If this has happened more than once, Arcade Boot Camp may be for you.

This game sets itself up as a trainer in the most common types of arcade scenarios, such as Night Driver type car driving, Donkey Kong arcade survival, Pac Manish maze maneuvering, not to mention Choplifter helicopter practice. Arcade Boot Camp sets out to educate your reflexes in these skills, with varying degrees of success.

The Car Driving in Arcade Boot Camp is good, with signposts as well as a second level of difficulty, featuring icy roads. However, with such excellent three-dimensional racing simulations available in the form of Speedway Classic or Pole Position, a driving simulation along the lines of Night Driver or International Grand Prix is no longer valid training for the arcade world, thus defeating the purpose of the whole exercise. The training is fun, but not up to the sales pitch or title of this program.

The maze training section is an obvious afterthought, and plays that way. Snuck in after the driver education section, this section plays poorly, with the lack of speed in your trainee very evident. Getting knife, then spuds, then placing spuds in pot seems to lack some integral sparkle of most maze games. This section can only be taken as a humorous addition, to add to the story line of the game.

However, after such a weak beginning, the remainder of this game is excellent, well worth playing. The Survival Training, reminiscent of Sammy Lightfoot minus the trampolines, is excellent, requiring quick reflexes, as well as thought before clearing the obstacles preventing the completion of the survival course.

The Chopper Practice, though simplistic and easy to complete for those already possessed of good reflexes, is fun to play, and a welcome relief after losing in the survival course.

Obstacle Course action is good if you chose this option first. Otherwise you get plenty of training of this type elsewhere in Arcade Boot Camp, and its inclusion seems foolish.

When it comes down to the final line, Arcade Boot Camp is an optically appealing game, with a humorous demo. However, if you are looking for true arcade training or for a game that will give long hours of enjoyment, look elsewhere. The best bet for conquering that arcade game is a $10 roll of quarters and plenty of patience.

Computer Shows

The Boston Area Microcomputer Show and Fleamarket will take place on Saturday, September 29, and on Sunday, September 30. On Saturday, the show will be open from 10 AM to 5 PM, and on Sunday, the hours range from 10 AM to 4 PM. Admission prices are $6.00 for adults, and $3.00 for children (5-12). This show will be held in the Northeast Trade Center, located on Route 128, Exit #39, in Woburn. Last spring, this show was aimed more at the person who was looking to buy, rather than just lookers. Show prices are usually lower than regular, to take advantage of them, bring plenty of cash.

The second show, Info '84, looks to be more of a looker's show, as many industry leaders will be there, showing off their mainframes and mini's, with the intent on name and product recognition rather than actual sales. Some representative companies are: AT&T, Burroughs, Hewlett-Packard, IBM, Lotus Development Corp., Perkin-Elmer, NCR, Data General, Wang, XEROX and many, many more. These companies will fill four floors of the New York Coliseum, displaying their products.

Show Hours are 11:00 AM to 5:00 PM on October 1-3, 11:00 AM to 4:00 PM on October 4. Admission fees are steep, contact NEAT for details.

WORD PROCESSOR SUMMARY

	Letter Perfect	Screen writer	Word-star	Magic Wand	Word Handler	Apple-writer II	Apple-writer IIe	Pascal editor	Guten-berg
SYSTEM REQUIREMENTS									
Memory required	48K	48K	64K	48K	48K	48K	48K	48K	48K
Additional cards required		better with 16K	Z-80 80 col	Z-80 80 col					
Disk drives req'd	1 or 2	1	2	2	1 or 2	1	1	1	1
# columns on screen	40 (a)	40-70	80	80	66	40 (a)	80	40 (a)	40
Display upper/lower case on screen	(b)	yes	yes	yes	yes	(b)	yes	(b)	yes
Use shift key (if modified)	yes	yes	yes	yes	yes	yes	no mod	yes	yes
Memory resident	yes	no-48K yes-64K	no	no	no-but fast	yes	yes	yes	no
DOCUMENTATION									
On screen help file	no	yes	yes	yes	no	yes	yes	prompt line	no
Reference card	yes	yes	good	yes	yes	yes	yes	no	no
Manual quality	fair	fair	good	fair	fair	excel.	excel.	good	good
Tutorial section	not needed	yes	yes	yes	yes	no	yes	yes extra	yes
Manual index	yes	yes-2	yes	yes	yes	good TOC	yes	yes	yes + glossary
FEATURES									
Print spooling	no	yes	yes	slow	no	no	no	no	no
Form letter capability	yes	yes	extra $100	yes	extra $75	yes	yes	-	yes
Imbed graphics	(c)	(d)	no	no	no	extra	no	no	YES!!
Data file type	text	text	CP/M	CP/M	binary (e)	text	text	Pascal text	special (e)
Copy Protected	yes	yes	no	no	yes	yes	yes	no	yes
Copies supplied	2	2	1	1	2	2	2	1	2
Add'l backups		$10			free				
Special features	data base compatible	indexing footnotes	what you see is what you get	easy ctrl key operation	66 col u/l case on screen	glossary WPL	glossary WPL	formatters available	all other + graphics
Retail price	$150		$495	$229	$199		$199	with	$325
Discounted price	$99	$85	$279	$180	$139	$20-35	$145	Pascal	?

(a) 80 columns with 80 column card
(b) upper/lower case on screen with upper/lower case adapter chip or 80 column card
(c) superscripts and subscripts
(d) can use alternate character sets
(e) non-standard DOS file but can be converted to standard DOS text file

HACKERS

by Mike Wendland

In the early days of the PC craze, the hackers were mostly a mischievous lot. Young boys and girls would hole up in their bedrooms. While their parents thought they were doing homework, they instead would use their PC's and a modem, which hooks up the computer to the telephone line. Once on to a mainframe computer, they would "hack" out various log-on procedures until they discovered how to get into, say, school system attendance rolls, grade reports, or, sometimes, the big computer networks like Telenet or The Source. Oh, there was a lot of moaning and some minor financial damages from time to time when the electronic trespassers were caught, but the early hacking was mostly exploratory, a sort of natural outgrowth of computer interest and a teenager's constant need to test authority.

But then, last summer, a group of Milwaukee area teens made nationwide news because hacking efforts had the potential for serious damage. They broke into the private and supposedly confidential data banks of major hospitals, corporations and even top secret governmental agencies. The FBI actually raided the homes of several members of the looseknit hacking fraternity, which called itself the 414's after Milwaukee's area code.

After a flurry of publicity, the story died down. But I was curious. Surely, I thought, these Milwaukee kids weren't the only hackers who had gone beyond minor hacking. So I began my own investigation. At home, using my personal Apple //e and a Hayes Micromodem, I set out to learn how extensive the problem was by dialing into the hundreds of hacking bulletin boards around the country.

But I couldn't do so, at least initially, as "Mike Wendland, reporter." That would scare off the people I most wanted to make contact with. So, like most of those who use the hacker, or pirate, bulletin boards, I needed an pseudonym, or "handle."

I became "Apple Polisher."

Two months later I broke a major story, a story that revealed how the computer hacking craze was bilking millions of dollars a year from the various private companies that provide long distance telephone service. I documented how the hackers have routinely tapped into a computer network used by the private contractors who do the military's highly sensitive research and developmental work. And I uncovered numerous examples where computer hackers intentionally destroyed customer account information at brokerage houses, altered employment records at several large corporations and even got into a computer used by a large regional Midwest bank to keep track of its branch offices.

Hackers had become more daring; no longer content to just "look" into confidential (and sometimes highly classified) corporate and government computer files, some of these people were altering and/or destroying vital information.

But I'm getting ahead of myself. Back to how it all started.

In the fall of 1983, I began research for an investigative series of television broadcasts about privacy and the Orwellian version of 1984. My assignment was to see how close the nation really was to the fictional view taken by Orwell. I traveled the country, interviewing government and business leaders, computer security officials, credit reporting agencies and consumer advocates.

The story came together fairly well. The comparisons to Big Brother and our computerized information society were obvious.

But as I wrapped up the interviews and began production, I found, in reviewing my research, a chilling new aspect that was not foreseen by Orwell. I was sitting in the highrise office of a former military intelligence officer in Washington who now works as a private consultant on computer security. I was looking out at the familiar landmarks of the nation's capital when he pushed across a xeroxed copy of a Time Magazine article on the arrests of the 414's. "Here," he said, "This is what scares us the most these days. This case is just the tip of the iceberg."

Hard on the heels of last summer's big movie hit "War Games," the arrests of the Milwaukee teens was big news. But the story faded from the front page almost as quickly as it hit.

An FBI agent I know in Los Angeles confirmed the problem a few days later. "Orwell's 1984 will never really happen as far as Big Brother goes," he told me. "The government has too many watchdogs, too many legislative and judicial constraints to ever approach Orwell's vision. It's Little Brother that you should be looking into. These computer kids are breaking into confidential files, ripping off the phone company to the tune of millions each year and threatening the privacy of more people than you could ever imagine."

In Chicago, I was told of a brokerage firm that had many of its computerized account files erased or altered by electronic trespassers who managed to get into the firm's secret data files through a telephone hookup to its mainframe computer. "We've solved the problem by changing our log-in system and encoding our files," the firm's president told me. "All we know is somebody who called himself 'The Happy Hacker' dialed into our system and, "poof," there went a dozen key files. We're just fortunate we had backed up the data and could re-enter it."

The story had changed, taken on a new and much harder edge than what I first set off to report.

But how to get at it? To really develop the story, I would need access to those who were responsible for the problem. There was only one place to start.

My basement.

It is there, in a small paneled office tucked away in a far corner, that I do most of my writing on an Apple //e. With

the addition of a Hayes Micromodem, my computer became attached to my telephone line. From there it was a quick trip to the world of the computerized bulletin board, or BBS in the lingo of the hackers.

By conservative count, there are an estimated 2,000 bulletin boards in use by computer hobbyists across the nation. Most are innocent, used by hobbyists to exchange information on programs, list computer equipment for sale or swap or to "ragchew," or hold conversations and leave messages for other modem-equipped enthusiasts.

But there are other boards out there that are used for other purposes. There are about a hundred sex boards around the country offering all sorts of illicit or unconventional services. There are about two hundred "pirate" boards used by those who illegally copy and distribute protected programs. And then there are probably a similar number of "phreak" boards, used by phone phreaks (sic) who exchange information on how to beat the phone company out of long distance charges.

"These bulletin boards constitute an entire underground network," an FBI source told me. "Within hours, pirated programs and log-on information to even the most sophisticated system are in the hands of hackers from coast-to-coast."

My initial foray on the boards was pretty straightforward. I left a brief message on the public notice section of a half dozen BBS in various parts of the country. I identified myself as a reporter, said I was interested in doing a story on hacking and would keep all sources confidential. I then typed in my office telephone number.

The next morning at work, I had three return messages waiting.

"Hey, Wendland, I don't know what's going on but you sure are getting some pretty weird calls these days," said my assignment editor as he handed me the phone message slips. It was the names given by the callers that caused him to shake his head. They were hacker "handles." One called himself "Captain Microchip." Another was "Fast Tracker." The third caller identified himself as "The Destroyer."

Although none left return numbers for me to call, all indicated they would contact me later in the day.

And over the next several weeks, they did, along with many other hackers from all parts of the country. I approached the research in two ways. After interviewing the hackers as a reporter, I then attempted to verify what they told me by posing as a hacker myself.

At home, on my own computer, I would log-on the various bulletin boards as "Apple Polisher." I used the most active pirate and hacking boards cited by the hackers who I had previously interviewed formally as a reporter. I even received special authorization to use some of the "security clearance only" boards.

These are secret "boards-within-a-board". On most of the pirate BBS, there are different levels. The average and infrequent caller gets on the public or non-classified boards; but to get deeper into the system, where the hackers keep their "good stuff," requires clearance.

To get it usually means leaving a message to the board's system operator. He will then usually ask for an address or a telephone number.

I was called only several times on a special line I had installed just for my undercover role. The sysop, as he is called on the BBS, seldom asked anything more than what my hacking interests were. I posed as a 19-year-old college student, just getting started in hacking.

Once authorized to utilize the pirate and phreak sections of the various boards, I saw the hackers in operation, posting and exchanging tips on how to dial into various computer networks.

In my research, I met and interviewed scores of hackers. Since the only way they would talk to me was if I promised them anonymity, I can't provide too many details about their hometowns or exploits. Indeed, I can't even use some of their real handles because several have been visited in recent months by the FBI and are currently suspects in ongoing investigations.

But the hackers, mostly interviewed separately over the telephone or through electronic mail on some of the most active boards, told me of scores of electronic break-ins. Most, they said, were innocent, leaving modern day "Kilroy Was Here" type messages on supposedly secure business and government mainframes.

But others were not so fun.

Two hackers I persuaded to come to the television station for a face-to-face interview told me how they once broke into the computer used by a large west coast investment firm to keep track of client holdings.

"We changed all the numbers," gleefully confessed one of the hackers, the 15-year-old son of a well-to-do banker in suburban Detroit. "We altered interest rates, the number of stock shares people owned, stuff like that."

His buddy, a high school senior, once dialed up the mainframe computer used by a Midwest corporation to monitor employee sales records. "We changed commission figures," he laughed. "We'd look down the columns and the guys who looked like they were doing the worst we turned into star salesmen. Some employee we declared dead, just by typing in 'deceased' and pushing our return key. As far as the company computer was concerned, they just ceased to exist."

This pair brought along a special hacker program they created. They ran a demonstration on the Apple /// I use at work.

Just as the teenaged star of the movie "War Games" used his computer to scan through hundreds of telephone numbers looking for lines answered by computer tones, these two real life hackers had a program that tried various telephone touch tone numerical sequences.

The purpose was to find special touch tone codes used by customers of the various private long distance telephone services.

"We'll use it late at night, just before we go to sleep," explained one of the hackers. "We dial up the access number to the private long distance service company and then let the program go. As it rolls along trying various com-

binations, it registers and records to disc each time it hits a good code that brings a dial tone. When we wake up in the morning we go to our disc and print out a whole list of good codes. Then we can call free anywhere we want."

Routinely, hackers trade and barter these long distance codes, as well as telephone company credit card numbers. They'll offer them to get sign-on information to a mainframe they're trying to crack. Some trade the numbers to get pirated programs. Others just like to give them away for a sense of power.

The problem is severe. Long distance dialing services are now working with the FBI and state law enforcement agencies in many parts of the country, trying to halt the rapidly escalating use of pirated numbers.

In Florida, an 18-year-old female hacker from Michigan is facing criminal charges for racking up more than $40,000 in illegal charges. In New York, a Long Island physician received a 505-page bill for fraudulent charges totaling $61,180. For a two-month period earlier this year, the Michigan Association of Governmental Employees received a bill of $320,984. The normal bill for the 2,000-member union is about $600.

Government investigators blame these and scores of other cases on hackers who use their home computers to spread private access codes or telephone credit card numbers.

Who are the hackers calling? "I knew this girl from Germany who was an exchange student in my school last year," one hacker told me. "So after I picked up a charge card number on one of the bulletin boards I started calling her pretty regular. It's great, we talk for a couple hours at a time and it doesn't cost me a cent."

Most of the illegal phone charges are racked up calling bulletin boards across the country and then trying to break into private and government computers.

One of my most valuable sources was a hacker named "The Wizard of Arpanet." He is a 15-year-old all-A student from Detroit. He takes his hacker's handle from the defense department's Advanced Research Projects Agency Network, or Arpanet, a private computerized research network used by hundreds of defense contractors.

It was through the Wizard and his friends that I learned about "the Trojan Horse," which is a favorite trick used by the hackers to capture information from the computer systems they invade.

"What we do is modify the target computer's regular program through some internal instructions," explained a 16-year-old hacker. "We rig it up so that it looks normal. When a legitimate user comes on line, he logs in with his password just like always. But the modifications we made captures all that information and writes it to a new file. Later on, when we get back into the computer, we call up our Trojan Horse file and we've got all the sign on information and passwords we need. Then we can go anywhere, see anything. It's all ours."

Routinely, the Wizard and his coast-to-coast pals tapped into Arpanet and other government data banks stored on such commercial networks as Telemail, an electronic mail network operated by the GTE Communications Corporation in suburban Washington. Although the government maintains none of the information the youthful hackers had access to was classified, their penetration of the supposedly secure system was highly embarrassing. Authorities conceded that, among other things, the hackers were able to rummage through the electronic mail of the National Aeronautics and Space Administration.

The break-ins occurred for a three month period last year. Louis Lushina, the man in charge of NASA's electronic mail service, said the hackers created their own personal passwords, opened new files for themselves and their friends and actually destroyed a number of messages and files stored on the system by the space agency.

In October 1983, the homes of the Wizard and 14 other hackers around the country were raided by the FBI. The computers used by the hackers were confiscated.

I remember visiting the Wizard's home the day after the raid.

"They just came charging in and went straight for (the Wizard's) bedroom," his astonished mother told me. "He was at school. They asked me if I knew what he was doing with the computer. I said he was doing his homework. At least that's what we thought he was doing up there every night. That's why his father and I bought him the computer."

The Wizard and most of his pals were juveniles. The youngest in the nationwide hackers ring was 13. Investigators say most of them regularly communicated with each other through computer bulletin boards and by plugging into long distance or coast-to-coast telephone conference calls. According to officials, those calls were illegally made through the use of "Blue Notes" or dialed up with pirated code numbers.

It was time for the government to act. But to make an example, they needed adults, not children. In California, two hackers, one 18 and one 19, were officially arrested about a month after the Wizard was raided. Charged with 14 counts of illegally gaining access to information at universities and agencies doing defense department research work, the two caused about $200,000 damage to various programs, according to a district attorney's report. The government has said that these two, and a third hacker identified only as "Kareem," also penetrated the network's "very sensitive" information.

The hacking story did not end when my series of reports aired. While stories like mine focussed nationwide attention on the problem and have helped bring about new laws and law enforcement attention, indications are that the hackers are becoming more sophisticated.

"We've been very fortunate so far," says an FBI agent who worked on the case that resulted in the raid against the Wizard and his buddies. "For the most part, these have been 16 year old kids. And they are hacking more out of curiosity and mischievousness than meanness. But the bottom line to us in the bureau is national security.

"We think it's just a matter of time before not so friendly interests from another country get into this. It may have already happened, for all we know. So in a way we owe these kids a debt of gratitude. They've unwittingly exposed a problem we didn't even know existed. And you can bet we're going to keep our guard up from now on."

Bulletin Boards Update

By Sam Ezust

Many new boards have popped up recently, and I can't review them all, but there are a few that I have been calling very often.

One of them is called the *Nite-Lite* (576-2426). It is run on an Atari 400 with over 1 meg of disk storage. Actually it is two boards, with separate features. Each has an on-line adventure and a number of sub-boards.

It has an auto reply option, a new message feature, and a new feature called the *"W"hat command*, which displays the message that the message you are reading is a reply to (sounds a bit confusing in the description, but it is quite simple when you actually see it). It is run on software developed by Paul Swanson, the System Operator (sysop). Features found on this system are standard on other popular bulletin board software (TBBS, on the Trs-80, and A.M.I.S., on the Atari). I would be calling this board much more often if the hours were not only between 7 PM and 7 AM.

SPECIAL NOTE: If you call the board after 1 PM and before 7 PM, another board will be running on the same line instead of the Nite Lite, known as the *Day Lite*. The *Day Lite* is not as powerful as the *Nite Lite*, and it doesn't have as many features. Some 300 baud modems will not work on this board, because of the weak carrier generated by the Commodore modem.

Xevious (449-2589 and 449-4146: 2 lines) is another board I have been calling a lot. It is run on a heavily modified bulletin board program called *Net-Works*, and is probably one of the best Apple boards around. Many people call it because of it's pirate sub boards (and you will notice that many of the users go under pseudonyms), but there is a lot more to *Xevious* than just piracy. *Xevious* has a unique sub-board not found on any other Apple board: *The Scratch Pad*. It is essentially a primitive Binex discussion board, containing conversational messages about almost any topic. At this very moment, the users are trying to organize a *Xevious* party, and the sysop and some of his friends are selling T-Shirts that advertise the board.

Xevious is run on a 6 meg hard drive, and the sysop has put it to good use. It is running 15 sub boards right now. Some of them contain useful technical information about particular computers, such as the Commodore BB (BB is just an abbreviation for Sub-board). The programmers' corner is another one, and it was loaded with good technical information (mostly for the Apple) after only being up for one week! I am told that the IBM BB has some good information too. Callers post questions they have about their computer, on these BBs, and other callers reply and answer the questions. Many problems have been solved this way.

And that's not all! This board has mods (MODS is just a 'buzzword' meaning changes that the Sysop has made to his system) that are not found on ANY other Apple board, such as the Auto E-mail feature, saved configuration, and one of its newest mods, inter-user chat mode, which allows you to send messages directly to the user on the other phone line (A feature usually found on mainframes). It has a few flaws, but it does work quite well.

It does lack in a few standard features, such as a NEW message search, Auto-reply, and a 'deselect' option (this feature is found on most other boards. It allows you to deselect certain BBs but still read the others and saves a lot of time when scanning through a lot of messages). The other mods, however, such as an on-line phone database, and a multi-user text arcade game (*Xevious Trek*), make up for them. The users on the board give it more support than any other board I have seen. The sysop has urged the *Xevious* devotees to send me mail describing what they like most, and I have received numerous messages, mostly about the *Xevious Trek* (which is down for the moment), and The Scratch Pad.

The sysop of this board is George Kassabagi and he has made a lot of mods on this board by himself that makes it one of the best around. He should be congratulated for converting a NetWorks product into a board that works so smoothly, considering the fact that an out-of-the box NetWorks software package is very limited. His goal is to have this board be the biggest and the best multi-user, free bulletin board service (in the country!).

SPECIAL NOTE: *Xevious* is supporting other boards that go up under the *Xevious* name. There are about 3 ascii-express boards that are already up, as well as *Xevious 2*, which is out of state. Call the *Xevious 1* board, and read BB #15 *(Xevious Info)* for more information about these.

NEXT ISSUE:
*Bulletin Board Telephone nos.
*Peeks and Pokes
*A continuation of W.P.L. article on "Applewriter" (if "Apple Orchard" is published between now and then.

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IS IN NEARBY WOBURN, AND IS A REPEAT OF THE SUCCESSFUL BOSTON AREA MICROCOMPUTER SHOW AND FLEAMARKET HELD EARLIER THIS YR. THE OTHER IS CALLED "INFO '84" AND WILL BE AT THE COLLISEUM IN N.Y.C. WITH FOUR FULL FLOORS OF EXHIBITS. SEE INSIDE THIS NEWSLETTER FOR DETAILS ON BOTH SHOWS.